

Subject: Accident due to side fall and fall of persons in opencast mines during monsoon season.

Analysis of 288 fatal accidents that occurred in non-coal mines during last five years (1999-2003) has revealed the following:

Cause	No. of accidents	Percentage
Dumper and trucks	74	25
Fall of persons	51	18
Side fall	46	16
Explosive	31	11
Fall of objects	13	05
Roof fall	07	02
Other	66	23

From the above, it is observed that fall of side and fall of person together accounts for 97 accidents i.e.34% of all accidents, which occurred mostly during monsoon months. Such accidents occur mainly due to –

- 1 Non-formation of proper benches and non maintenance of slopes, especially in overburden consisting of alluvial soil, mourm, gravel, clay, debris or other similar ground.
- 2 Formation of undercuts causing overhangs.
- 3 Working near the edges of high benches without wearing safety bets.

It has been observed that during normal season high benches are stable and tolerate certain amount of under-cut. but during normal season, specially after the first shower, the ground is likely to be soaked with rainwater. Cracks and crevices which are created by mining also get filled with water. The slope faces are subjected to high water pressure leading to collapse of side causing accidents to persons engaged at the bottom of the bench and / or persons engaged at the edge of the quarry.

The persons engaged thereat are ignorant about the dangers about the changed situation due to routine nature of job and sense of complacency and try to work in normal way ending up with accident.

In few cases loose boulders / rocks which are not cleared and kept away from the edges of the quarry have rolled over and fallen on the person engaged at the bottom of the bench. Similar is the case with those who are engaged at the edge of the high benches.

To avoid such accidents adequate provisions have been provided under Regulation 106 of MMR, 1961 and Regulation 98 of CMR, 1957, which are not generally being followed wherever such accidents have occurred. therefore once again it is impressed upon all concerned, of open cast coal and non-coal mines, particularly

small mine operators, working in stone, marbles clay, sand stone, slate, limestone, iron ore etc. to pay adequate attention to:

- 1 Formation of proper benches as specified under Regulation 106 of MMR, 1961 /98 of CMR, 1957.
- 2 Dressing and making the sides of benches secure before employing persons.
- 3 Cleaning loose stones and debris lying within 3m from the edge of the benches.
- 4 Not allowing any persons to work at the edge of the bench/quarry without wearing a safety belt fully secured.
- 5 Not allowing any persons to do under cutting of the face/side so as to form overhang.
- 6 Caution all persons working at the quarry regarding failure of benches due to rain water and its consequences.
- 7 Construction and maintenance of garland drains around the excavation before the onset of monsoon to divert the rain water away from the pit.

It is expected that is above precautions are taken and efforts are made to ensure strict compliance of law, accidents due to side fall and fall of persons from the benches in open cast mines can be prevented.

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